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Second record of *Tadarida brasiliensis* (I. Geoffroy St.-Hilaire, 1824) (Chiroptera, Molossidae) in Santa Cruz Province, Argentina

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Abstract: Although *Tadarida brasiliensis* is one of the most widely distributed species of bats in Argentina, it is nevertheless extremely scarce in Patagonia. We report a second record of *T. brasiliensis* for Santa Cruz province, which fills a gap in the geographical distribution of this species in that province and is also the third southernmost record for the species and for any molossid bat in the world.

Key words: Argentine Patagonia, new record, southern distribution, Molossidae

Molossid bats are widely distributed throughout the world (Simmons 2005); they are especially diverse in tropical and subtropical regions and are considered "tropical bats", although they can penetrate temperate zones in Europe as well as in the Americas (Barquez et al. 1999, 2013; Simmons 2005). Species from the genus *Tadarida* can reach high latitudes, including both the northernmost known record for molossid bats: *Tadarida teniotis* (46° N; Arlettaz et al. 2000) and the southernmost one *Tadarida brasiliensis* (52° S; Barquezet al. 2013). This last species is common and abundant in tropical regions, where they form colonies with millions of individuals. It occurs throughout most of the Western Hemisphere and is widely distributed in South America (Barquezet al. 1999). In Argentina, *T. brasiliensis* is also one of the most widely distributed species and is known from numerous records (Barquez et al. 1999). Nevertheless, records from Patagonia are extremely scarce not only due to the species'responses to latitudinal effects but also for the lack of bats studies in Patagonia (Nabteet al. 2011; Giménez et al. 2012; Barquezet al. 2013). Recently, a specimen of *T. brasiliensis* has been reported for the first time for Santa Cruz, in the Argentine Patagonia (Barquezet al. 2013), which constitutes the southernmost record for this species. Here we report a new locality record for *T. brasiliensis* in Santa Cruz province, constituting the third southernmost record for the species and for any molossid bat in the world.

A living adult male specimen of *T. brasiliensis* was found on 31 March 2015 hanging from the alarm sensor inside the livingroom of a house in the city of Puerto Deseado, located on the Atlantic coast (47°45′15″ S, 065°54′01″ W) (Figures 1 and 2). The area belongs to the Patagonian Phytogeographical Province (*sensu* León et al. 1998). It is a flat steppe of shrubs and grass interrupted by ravines, dominant tussock grass species are

Figure 1. Adult male *Tadarida brasiliensis* found hanging from an alarm sensor inside a house in Puerto Deseado, southern Patagonia.

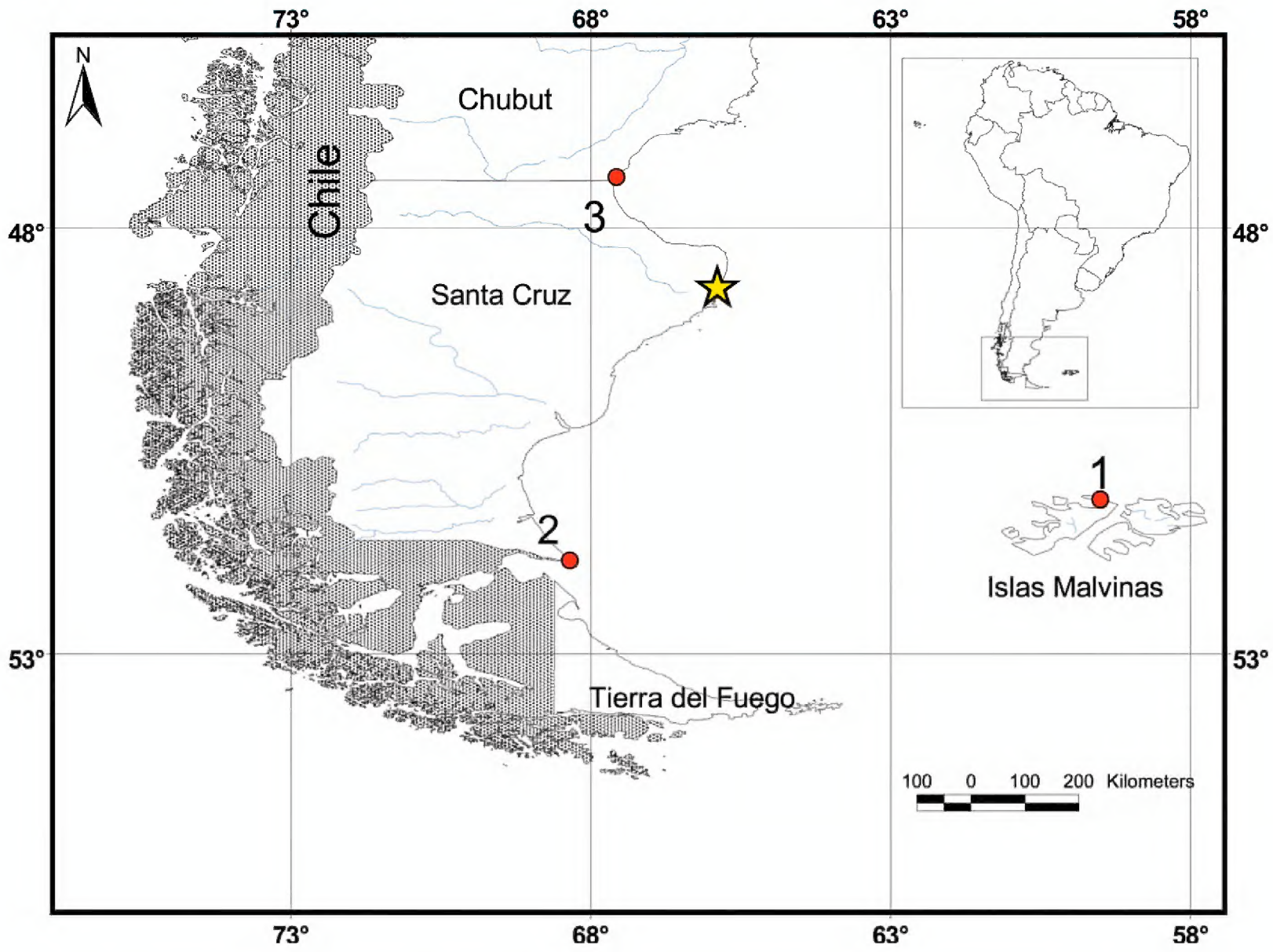

Figure 2. New locality record (indicated with a yellow star) for *Tadarida brasiliensis* in Puerto Deseado, Santa Cruz, Argentina; nearest localities are indicated with red circles and numbers: 1: Islas Malvinas, 2: CaboVírgenes, 3: Rada Tilly.

*Stipa s*pp.; and the dominant shrub species are *Nassauvia glomerulosa, Chuquirga aurea, Acantholippia seriphiodes, Lyciumchilense, Azorellaca espitosa, Mulinum spinosum, Mulgaraea tridens, Colligua jaintegerrima, Senecio filaginoides, Prosopis denudans,and Berberis heterophilla* (León et al. 1998).

At the laboratory of the Centro de Investigaciones de Puerto Deseado (UNPA-UACO) the specimen was weighed, sexed, and measured; later it was released during the evening. The specimen was considered an adult since it did not have cartilage streaks in the metacarpalia and phalanx articulations (Anthony 1988).

Figure 3. Dorso-lateral view of the adult male of *Tadarida brasiliensis* from Puerto Deseado, Santa Cruz, Argentina.

The specimen presented all the diagnostic features listed for *T. brasiliensis* (Wilkins 1989; Barquez et al. 1999): distal half of the tail extending freely beyond the uropatagium, ears with parallel furrows on the internal surface separated by a small space not extending beyond the tip of the snout when laid forward; tragus blunt and short; lips with deep folds and grooves; rostrum short; length of forearm 41 to 46 mm (Figure 3). External measurements for the captured specimen were taken with a dial caliper (precision = 0.1 mm): total length = 92.0 mm; tail length = 30.4 mm; ear length = 10.8 mm; hind foot length = 8.5 mm; forearm length = 42.3 mm; body weight 11.5 (g). All the measurements fall inside the ranges for the species in Argentina (Barquez et al. 1999).

This new record of *Tadarida brasiliensis* is the second for the species for Santa Cruz province, and fills a distributional gap between those recorded at Rada Tilly (Chubut province, 300 km north of Puerto Deseado; Nabte et al. 2011) and Cabo Vírgenes (Santa Cruz province, 700 km south of Puerto Deseado; Barquez et al. 2013) (Figure 2). It is also the third southernmost record for the species and for any molossid bat in the world, after the reports of Hill (1988) for Islas Malvinas (Falkland Islands) and Barquez et al. (2013) (Figure 2). Records of *T. brasiliensis* for southern continental Patagonia have been reported for the first time only in recent years. Large scale studies are necessary to

evaluate the current distribution of this species in Santa Cruz province as a base for its conservation in these arid lands.

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Authors' contribution statement: SZ, DP, AM and AT collected the specimen in SZ and AT's house, as well as took measurements and photos in the lab; AM released the bat; DP prepared the Figure 2; SZ wrote the text and all authors revised it.

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